AWS SDK

Python 3 (Boto3)

AWS Management Console

AWS Command Line Interface

AWS Tools and SDKs

AWS Cloud Services

Image credit: https://cloudiofy.com/3-ways-to-access-the-aws-resources/

AWS SDK

A set of **tools** and **libraries** to simplify the development of applications to interact with AWS services.

AWS SDK - Simplify Cloud integration

- **Effortless Access** - Seamlessly integrate AWS services into your applications.

- **Streamlined Development** - Focus on building features, not managing API calls.

- **Enhanced Productivity** - Rapidly prototype and deploy cloud-based solutions.

Boto3 - The AWS SDK for Python

pypi v1.34.50 | python 3.8 | 3.9 | 3.10 | 3.11 | 3.12 | license Apache License 2.0

AWS SDK for JavaScript v3

AWS CodeBuild passing | codecov 75% | code style prettier

AWS SDK for Go v2

Go Tests passing | Codegen Tests failing | SDK Documentation | Migration Guide | api reference | license Apache V2

AWS SDK - Language Support

Android   iOS   Java   JavaScript   .NET

Node.js   PHP   Python (boto)   Ruby   Xamarin

Check https://docs.aws.amazon.com/location/latest/developerguide/dev-by-language.html

Introduction to Boto3

- **Boto3** is the name of Python SDK for AWS

- Use it to **build applications** on top of Amazon S3, Amazon EC2, Amazon DynamoDB and more.

- **Boto3** consists of
    - **Botocore -** low-level interface between the Python SDK and the AWS CLI
    - **Boto3** - package that implements the Python SDK
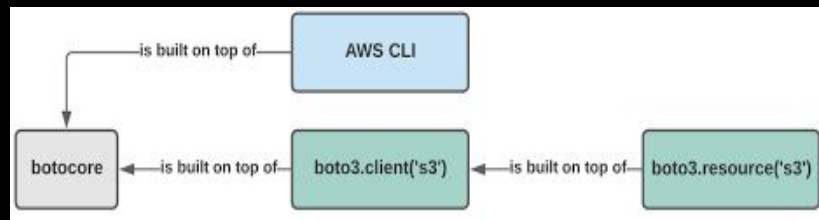
Python

Boto

+

Amazon

Installation

1

Install Python 3.8 or later

link: https://www.python.org/downloads/

```
python --version
```

2

Check and install pip if necessary
(only for Python 3.3 or below)
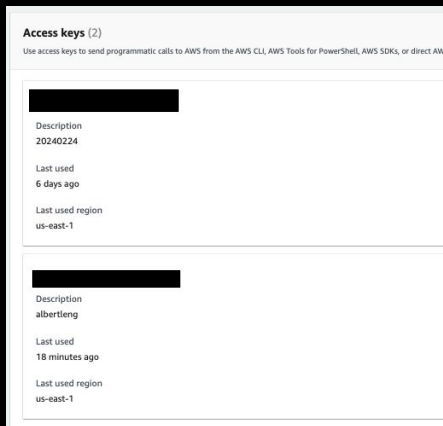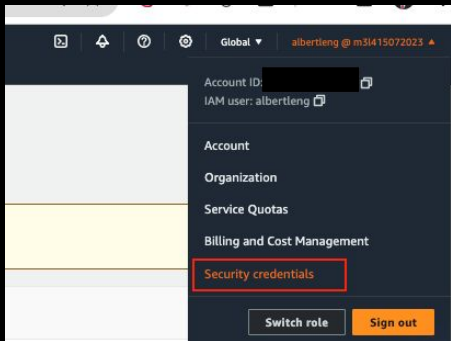
```
pip --version
```

3

Install boto3

```
pip install boto3
```

Configure Credentials of AWS Account

1
Configure Credentials

➢ Programmatic Access Keys

2
Validate/Check Credentials

```
aws configure
```

```
# Check AWS Credentials File
# for macOS/linux
cat ~/.aws/credentials
# for Windows
type %UserProfile%\.aws\credentials
```

```
# Check AWS Config File
# for macOS/linux
cat ~/.aws/config
# for Windows
type %UserProfile%\.aws\config
```

Usage of boto3

1. Import boto3

2. Initialize boto3 Client for the Desired Service

3. Interact with the AWS service using the Boto3 Client

```python
import boto3  1

s3_client = boto3.client('s3')  2

                3
response = s3_client.list_buckets()
for bucket in response['Buckets']:
    print(bucket['Name'])
```

Demos

- **Sentiment Analysis** using **AWS Comprehend**

- **Finding unused Security Group** for **EC2**

- A **simple Image Processing** and **Analysis System** (using **AWS Rekognition** and **AWS S3**)
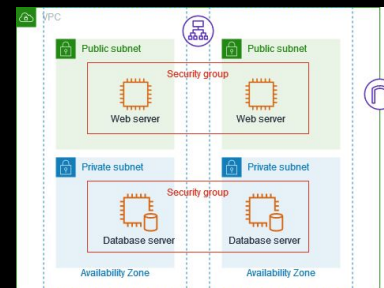
Amazon Comprehend

Discover insights and relationships in text

Documents

Email, chat, social, phone calls and more

Amazon Comprehend

Automatically extract insights from text

Entities
+ Custom Entities

Key Phrases

PII
(Personally Identifiable Information)

Sentiment

Document Classification

Topics

Language

Syntax

Demo 2
Finding unused Security Groups for EC2

Demo 3
Simple AWS Rekognition Application

References:
https://aws.amazon.com/rekognition/
https://boto3.amazonaws.com/v1/documentation/api/latest/reference/services/rekognition.html
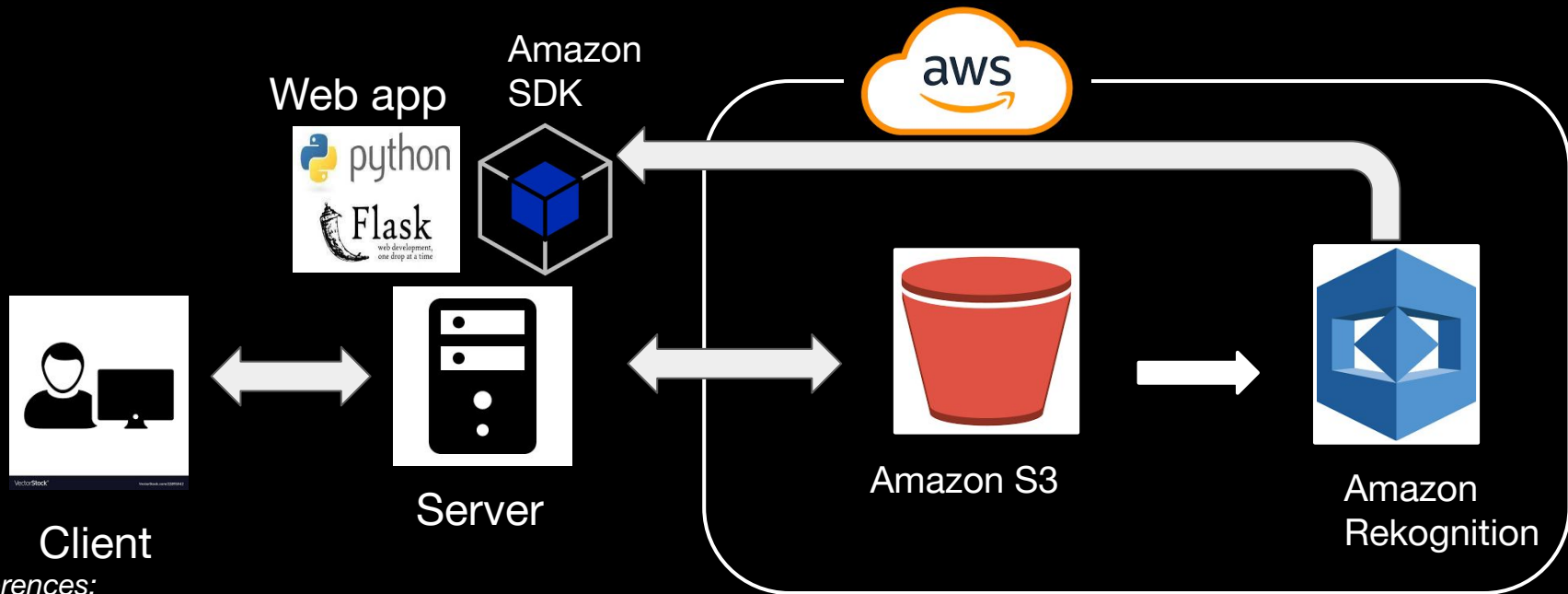
Other useful links:

- https://github.com/albertleng/AWS_SDK_Python_Boto3_Demo

- https://docs.aws.amazon.com/pythonsdk/?icmpid=docs_homepage_devtools

- https://github.com/awsdocs/aws-doc-sdk-examples

Thank you!

Have Fun!